

EXHIBIT 4

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

V.

NO. 6:20-CV-533-ADA

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

V.

NO. 6:20-CV-534-ADA

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

V.

NO. 6:20-CV-535-ADA

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-536-ADA

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-537-ADA

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-538-ADA

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-539-ADA

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-540-ADA

WSOU INVESTMENTS, LLC d/b/a
BRAZOS LICENSING AND
DEVELOPMENT,

Plaintiff,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
ET AL.

Defendants.

§
§
§
§
§
§
§
§
§
§
§

NO. 6:20-CV-541-ADA

claims of U.S. Patent Nos. 6,882,627 (“the ’627 Patent”), 7,095,713 (“the ’713 Patent”), 7,508,755 (“the ’755 Patent”), 7,515,546 (“the ’546 Patent”), 7,860,512 (“the ’512 Patent”), 7,872,973 (“the ’973 Patent”), 8,200,224 (“the ’224 Patent”), 8,417,112 (“the ’112 Patent”), 9,084,199 (“the ’199 Patent”), 8,249,446 (“the ’446 Patent”), 6,999,727 (“the ’727 Patent”), and 8,429,480 (“the ’480 Patent”) that the parties have collectively identified as requiring construction or that are indefinite. Huawei reserves the right to update, supplement, revise, or otherwise modify the proposed constructions in light of further investigation and discovery, including evidence not yet produced by Plaintiff, or in light of modification or supplementation of Plaintiff’s infringement contentions.

U.S. Patent No. 6,882,627 (-533 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1 29, 30	“performing a SRG (shared risk group) topology transformation of the network topology into a virtual topology that discourages the use of network resources”	“performing a transformation of links and/or nodes of a SRG (shared risk group) of the network into a virtual topology that discourages the use of network resources”
29	“second code means adapted to, for at least one shared risk group, determine if any of the at least one shared risk group includes any of the first sequence of network resources”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure
30	“means adapted to, for at least one shared risk group, determine if any of the at least one shared risk group includes any of the first sequence of network resources”	
29	“third code means for performing a SRG (shared risk group) topology transformation of the network topology into a virtual topology which discourages the use of network resources”	Subject to 35 U.S.C. § 112, ¶6 Function: performing a SRG (shard risk group) topology transformation of the network topology into a virtual topology which discourages the use of network resources Structure: Algorithms for link and node transformations such as those described in Figures 3C, 3D, 4A, and 4B, and equivalents thereof.
30	“means for performing a SRG (shared risk group) topology transformation of the network topology into a virtual topology which discourages the use of network resources”	

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 29, 30	“determining if any of the at least one shared risk group includes any of the first sequence of network resources”	“determining if each shared risk group includes any of the first sequence of network resources”
4	“transforming the node requiring transformation into two interconnected nodes”	“splitting the node requiring transformation into two interconnected nodes”
4	“transforming any bi-directional link into the node requiring transformation into a first unidirectional link into one of the two interconnected nodes, and a second unidirectional link out of the other of the two interconnected nodes”	“splitting any bi-directional link into the node requiring transformation into a first unidirectional link into one of the two interconnected nodes, and a second unidirectional link out of the other of the two interconnected nodes”
29	“A processing platform-readable medium having code means stored thereon for instructing a processing platform to select multiple paths through a network represented by a network topology representing an interconnected set of network resources”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: instructing a processing platform to select multiple paths through a network</p> <p>Structure: a multi-path routing algorithm (e.g., Figure 2 steps 2-2 to 2-5), and equivalents thereof</p>

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
30	“means for maintaining or obtaining network topology information”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: maintaining or obtaining network topology information</p> <p>Structure: nodes and known routing protocols such as OSPF (open shortest path first) or BGP (border gateway protocol), and equivalents thereof</p>
29	“first code means for identifying a first path through the network topology, the first path comprising a first sequence of network resources”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: identifying a first path through the network topology</p>
30	“means for identifying a first path through the network topology, the first path comprising a first sequence of network resources”	<p>Structure: a known routing algorithm such as multiple constraint routing (MCR), best path in network, or minimum hop, and equivalents thereof</p>
29	“fourth code means adapted to identify a second path through the virtual topology from the source node to the destination node”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: identify a second path through the virtual topology from the source node to the destination node</p>
30	“means adapted to identify a second path through the virtual topology from the source node to the destination node”	<p>Structure: known routing algorithms such as multiple constraint routing (MCR), best path in network, or minimum hop, and equivalents thereof</p>

U.S. Patent No. 7,095,713 (-534 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
5	switch data having a destination address associated with a logical port associated with the second fabric access device to a link associated with the first fabric access device	No construction necessary
5	destination address	No construction necessary
1, 3, 5	third system interface	No construction necessary
1, 5	third system interface configured to receive data from and send data to a second external system	No construction necessary
6	include with the data a port address associated with the second fabric access device	No construction necessary

U.S. Patent No. 7,508,755 (-535 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 3	“originating network device”	“a network device of a primary LSP which is not a source network device of the same primary LSP”
8, 23, 25	“means for re-routing traffic traveling along the bi-directional LSP in the backwards direction to the alternate path in the backwards direction based on the switch over message.”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
1, 5, 8, 10, 13, 16, 18, 23, 25	“switch over message”	“a message which instructs a device to perform a switch over to the alternate path and which is not a message that indicates a fault has occurred in the network”
1, 5, 7, 8, 10, 12, 13, 23	“merging network device”	No construction required

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 4, 5, 8, 10, 13, 15, 16, 18, 22, 23, 25	“bi-directional LSP”	“a primary LSP with both a forward and a backward LSP (label switched path.)”
1, 5, 8, 10, 13, 16, 18, 23, 25	“alternate path” or “alternative path”	“a secondary bi-directional LSP which is used for protecting the bi-directional LSP [as construed] and uses the same network elements as the bi-directional LSP [as construed]”
8, 25	“means for receiving the switch over message”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
23, 25	“means for means for [sic] receiving traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
23	“[means for] receiving a switch over message along the alternative path in the forward direction”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
25	“means for transmitting a switch over message, along the alternate path in the forward direction, for re-routing traffic traveling along the bi-directional LSP in a backward direction”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
25	“means for re-routing traffic traveling along a bi-directional LSP in a backwards direction to the same alternate path in the backwards direction based on the switch over message”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
20	“means for re-routing traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
20	“means for transmitting a switch over message along the alternate path in the forward direction to a merging network device responsive for re-routing traffic traveling along the bi-directional LSP in a backward direction to the alternate path in the backward direction”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.

U.S. Patent No. 7,515,546 (-536 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1	“first appropriate response”	No construction necessary
1	“if said first device provides routing capabilities, making said first device available for selection for management by a network management system”	No construction necessary
1	“determining if said first device provides routing capabilities”	No construction necessary

U.S. Patent No. 7,860,512 (-537 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1-18, 21-24, 27	capacity	“load”
1, 2, 6, 7, 11, 12, 18, 22-24, 27	transport capacity limit	No construction necessary
22	the transport resource management unit	No construction necessary

U.S. Patent No. 7,872,973 (-538 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 9	a message to the upstream device to reduce a rate at which packets are sent to the queuing device to prevent the queue from filling	“a message controlling the upstream device to reduce a rate at which packets are sent to the queuing device to prevent the queue from filing”
1, 9	the message	Indefinite
9	a module for sending the message from the e stream device to an upstream network device to thereby control a rate at which the upstream device receives packets from the upstream network device	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
9	a module for, if the depth of the queue passes a predetermined threshold, sending a message to the upstream device to reduce a rate at which packets are sent to the queuing device to prevent the queue from filling, thereby preventing packet discarding and loss by the queuing device	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
9	a module for sending a message reporting the depth of the queue to the upstream device to thereby enable the upstream device to determine whether to reduce or increase the rate at which the upstream device sends packets to the queuing device	Subject to 35 U.S.C. § 112, ¶6 Indefinite for failure to disclose sufficient structure.
9	a module for monitoring a depth of a queue in the queuing device	Subject to 35 U.S.C. § 112, ¶6

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
		Indefinite for failure to disclose sufficient structure.
1, 9	traffic manager	No construction necessary

U.S. Patent No. 8,200,224 (-539 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1	“wherein said plurality of candidate base stations for said second handover preparation includes at least one of said candidate base stations identified in said second measurement report”	<p>”wherein a second measurement report is received from said user equipment”</p> <p>must take place prior to</p> <p>“initiating a second handover preparation by transmitting a second handover request to a plurality of said set of candidate base stations, if said first handover preparation has failed”</p>
1	“selecting a set of candidate base stations including at least some of said candidate base stations identified in said first measurement report”	No construction necessary
11	“said complete set of radio bearers”	No construction necessary

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
15	“executable program means for causing a base station to perform the method when the program is run on the base station”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: Causing a base station to perform the method when the program is run on the base station.</p> <p>Structure: the FIG. 1 flowchart 100 of a handover method in a base station of a mobile communication system, and equivalents thereof.</p>
1	“transmitting a second handover request to a plurality of said set of candidate base stations”	No construction necessary

U.S. Patent No. 8,417,112 (-540 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 11	determining whether said collected BER values worsen over time	“determining whether said collected BER values worsen over time by comparing one or more of said recent ones of said collected BER values with said other collected BER values”
1, 11	in response to a determination that said collected BER values worsen over time, detecting an indication of BER degradation	“in response to an affirmative determination that said collected BER values worsen over time, detecting a signal indicating BER degradation”
1, 11	a predetermined BER threshold level	No construction necessary

U.S. Patent No. 9,084,199 (-541 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1	“generating quality metrics from a decoding process for a received channel quality indicator (CQI)”	“generating soft decision metrics in a decoding process associated with a quality of received channel quality indicator (CQI)”
15	“generating quality soft decision metrics in a decoding process associated with a quality of the received channel quality indicator (CQI)”	No construction necessary
1	“associated with a quality of the received CQI”	“associated with a quality of received CQI channel”
15	“associated with a quality of the received channel quality indicator (CQI)”	
1	“dynamically adjust a CQI channel configuration based on the comparison”	“a closed-loop process which dynamically adjusts a CQI channel configuration based upon the comparison of the short term or long term quality metrics”
1	“generated by filtering frame based quality metrics over a plurality of frames”	“created by processing frame based quality metrics over a plurality of frames in order to reject those long-term soft decision quality metrics that are unwanted”

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
9	“means for generating soft decision quality metrics from a decoding process for a received channel quality indicator (CQI)”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: generating soft decision quality metrics from a decoding process for a received channel quality indicator (CQI)</p> <p>Structure: a base station that includes a CQI recovery/decoding unit, CQI metric generation unit, and a decision making unit, and equivalents thereof</p>
9	“means for comparing at least one of the quality metrics to a quality setting”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: comparing at least one of the quality metrics to a quality setting</p> <p>Structure: decision making unit 34, and equivalents thereof</p>
9	“means for determining whether to dynamically adjust a CQI channel configuration based on the comparison”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: Determining whether to dynamically adjust a CQI channel configuration based on the comparison</p> <p>Structure: decision making unit 34, and equivalents thereof</p>

U.S. Patent No. 8,249,446 (-542 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
1, 15	[A method/Apparatus] of regulating rogue behavior in an [optical network component comprising an optical transmitter/optical transmission device]	“[A method/Apparatus] of regulating rogue behavior by a subscriber-based [optical network component comprising an optical transmitter/optical transmission device]”
1, 15	output indicator	“indicator indicating an optical output being transmitted
1, 15	output [indicator] threshold	“time length or a percentage of a total time window duration”
1, 15	optical transmitter output indicator	No construction necessary
1, 15	output indicator monitor	No construction necessary

U.S. Patent No. 6,999,727 (-543 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
All asserted claims	“a number of corrected errors (BCE) in a non-SCS base reference time period”	“the number of background corrected errors within a base reference time period which is different than the base reference time period used to calculate uncorrected blocks”
All asserted claims	“classifying said blocks as either corrected or uncorrected through said Forward Error Correction function”	No construction required
All asserted claims	“corrected errors”	“number of errors that have been corrected by the FEC mechanism in the time interval considered”
All asserted claims	“calculating a Performance Monitoring function by implementing a correlation of the information regarding said corrected and uncorrected blocks”	No construction required

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
4, 5	“means for implementing a Performance Monitoring function based on data retrieved through a Forward Error Correction function”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: implementing a Performance Monitoring function based on data retrieved through a Forward Error Correction function</p> <p>Structure: Algorithm disclosed in Figure 1, and equivalents thereof</p>
4, 5	“means for receiving blocks of data”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Indefinite for lack of structure.</p>
4, 5	“means for obtaining data through the Forward Error Correction function carried out on the blocks of received data”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Indefinite for lack of structure.</p>
4, 5	“means for classifying said blocks either as corrected or uncorrected through the Forward Error Correction function”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Indefinite for lack of structure.</p>

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
4, 5	“means for calculating the Performance Monitoring function by implementing a correlation of the information regarding said corrected and uncorrected blocks”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: calculating the Performance Monitoring Function by implementing a correlation of the information regarding said corrected and uncorrected blocks wherein said correlation of the information regarding said corrected and uncorrected blocks includes calculating information comprising: a defected base reference time period (SCS) or a time period where at least an uncorrected block (UB) has been detected and a number of corrected errors (BCE) in a non-SCS base reference time period.</p> <p>Structure: Algorithmic structure: $BER_{IN} = \Sigma BCE / (NSEC - \Sigma SCS)$, and equivalents thereof</p>
6, 7	“implementing a Performance Monitoring function based on data retrieved through a Forward Error Correction Function”	<p>Subject to 35 U.S.C. § 112, ¶6</p> <p>Function: implementing a Performance Monitoring function based on data retrieved through a Forward Error Correction function</p> <p>Structure: Algorithm disclosed in Figure 1, and equivalents thereof.</p>

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
6, 7	“receiving blocks of data”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for lack of structure.
6, 7	“obtaining data through the Forward Error Correction function carried out on the blocks of received data”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for lack of structure
6, 7	“classifying said blocks either as corrected or uncorrected through the Forward Error Correction function”	Subject to 35 U.S.C. § 112, ¶6 Indefinite for lack of structure

U.S. Patent No. 8,429,480 (-544 Case)

<u>Claim</u>	<u>Claim Term</u>	<u>Proposed Construction</u>
2	the resources are persistently allocated for transmitting the new uplink packet transmission (claim 2)	Indefinite
6, 9, 12, 15, 18	resources are persistently allocated for transmitting the new uplink packet transmission (claims 6 and 9) persistently allocating a resource for transmitting the new packet transmission (claim 12) a resource is persistently allocated for transmitting the new packet transmission (claims 15 and 18)	No construction necessary
1, 2, 5, 6, 7, 9, 11-19	hybrid automatic repeat request process	“process implementing a stop and wait protocol and soft combining where in the uplink a UE adjusts the PUSCH transmission according to PDCCH and/or PHICH information as detected by the UE”

Dated: January 8, 2021

Respectfully submitted,

/s/ Jason W. Cook

Jason W. Cook

Texas Bar No. 24028537

Shaun W. Hassett

Texas Bar No. 24074372

McGuireWoods LLP

2000 McKinney Avenue, Suite 1400

Dallas, TX 75201

Telephone: (214) 932-6400

jcook@mcguirewoods.com

shassett@mcguirewoods.com

Tyler T. VanHoutan

Texas Bar No. 24033290

McGuireWoods LLP

600 Travis St., Suite 7500

Houston, TX 77002

Telephone: (713) 571-9191

tvanhoutan@mcguirewoods.com

J. Mark Mann

Texas Bar No. 12926150

G. Blake Thompson

Texas Bar No. 24042033

MANN | TINDEL | THOMPSON

300 West Main Street

Henderson, Texas 75652

Telephone: (903) 657-8540

mark@themannfirm.com

blake@themannfirm.com

Counsel for Defendants Huawei Technologies Co., Ltd., Huawei Technologies USA, Inc., Huawei Device Co. Ltd. (f/k/a Huawei Device (Dongguan) Co.), Huawei Device (Shenzhen) Co., Ltd. (f/k/a Huawei Device Co. Ltd.) and Huawei Device USA

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing document was served on all counsel of record who are deemed to have consented to electronic service via electronic mail on January 8, 2021.

/s/ Shaun W. Hassett
Shaun W. Hassett